

One New Species of the Genus *Galloisiana* (Notoptera: Grylloblattidae) from Korea

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韓國產 갈르와벌레의 1新種

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摘 要

韓國에서 발견된 갈르와벌레의 세번째 新種을 記載하였다. 세계적으로 稀貴한 本屬은 지금 까지 우리나라에서 2種 [*Galloisiana biryongensis* Namkung, 1974 (비룡갈르와벌레) 및 *Galloisiana kosuensis* Namkung, 1974 (고수갈르와벌레)]이 보고된 바 있고, 이 新種 [*Galloisiana magnus*, n. sp. (동대갈르와벌레)]을 추가하므로써 韓國產 갈르와벌레는 3種이 된다. 本 新種은 既知의 어느것보다도 大形種이며 그 形態의面에서 비룡갈르와벌레와 비슷한 점이 많으나, 第10腹節背板(supra-anal plate) 및 主交尾突起(principal copulatory sclerite)의 모양 등에 뚜렷한 차이가 있다. 本種의 韓國名은 東大 洞窟探險研究會의 多年間에 걸친 동굴 탐험연구의 業績을 기념하기 위하여 “동대갈르와벌레”로 命名하였다.

Key words: Insecta, Notoptera, Grylloblattidae, *Galloisiana*, Korea.

Two species of the genus *Galloisiana*, *G. biryongensis* Namkung, 1974 (see Namkung, 1974a) and *G. kosuensis* Namkung, 1974 (see Namkung, 1974b), have been known from Korea. Thereafter, an extremely large individual of a male grylloblattid was collected from a lime stone cave in Kangwon-do province. After the close examinations, the author decided to report this as one new species of the genus *Galloisiana* (Notoptera: Grylloblattidae) from Korea.

The author wishes to express his gratitude to the collector of this holotype, Mr. Young-Kyu Kim and The Cave Exploration Club of Dongguk University for their unrelenting excavation effort and finding of this specimen.

The type of new species is preserved in Entomology Laboratory, Dongguk University, Seoul, Korea.

Galloisiana magnus, n. sp.

동대갈르와벌레

(Figs. 1-8)

Male (holotype) : Body larger than any other *Galloisiana* so far reported in the world. General

coloration reddish brown, head and pronotum slightly darker. Head round and flat, somewhat chestnut like, smooth brown surface covered with fine yellowish white hairs. 7-8 setae at the lateral margins, 4-5 near the antennal socket. Frontal suture clearly seen from antennal base to occiput. Eyes invisibly degenerated. However, under microscopic study, a lighter spot with narrow oval shape and a pair of setae on the spot are observed in the area of eyes (Fig. 2). Antenna filiform with 52 segments (the right one of the holotype broken). The third segment longest, about 2.5 times longer than the second. Clypeus pentagonal, somewhat bulged, noticeably subdivided by its colour with darker posterior and lighter anterior. Labrum semicircular with round anterior, whole surface covered with yellowish-brown bristles. Lacinia with two well spaced preapical teeth and a row of sparsely arranged long stiff bristle on the inferior part (Fig. 3). Pronotum nearly rectangular, slightly narrowing posteriorly, 12 setae along anterior margin, 5-7 along lateral margins, while only 2 on the middle of posterior part.

Mesonotum trapezoidal, distinctly narrowing anteriorly. 5 brown setae on left and 4 on right side, and 8 along posterior margin. Metanotum similar to mesonotum in shape. 3-4 setae on the fore parts of lateral margins, 10 along posterior margin, and 6 irregular ones on the middle. 8 pairs of long spine-like setae on the first cervical sclerite, regularly arranged along the lateral margins (Fig. 4). Basisternum elongated triangularly, nearly sclerotized, slightly narrowed posteriorly.

Abdominal tergites with 8 setae along posterior margins, and one pair on the mid-lateral sides of each segment. Supra-anal plate bulged, somewhat pig-nose like in shape, and it is a diagnostic characteristic of this species (Fig. 6). Abdominal sternites with irregularly arranged numerous setae. Cerci with 10 segments (tip of right one broken). 4-6 setae at posterior end and long fine hairs at outside of each segment.

Legs long, length/width ratio of femur and tibia are: 4.07 and 5.33 respectively in fore legs, 4.18 and 6.56 in mid legs, 5.36 and 8.87 in hind legs. Femur and tibia with numerous setae, and a horn-like apophysis on tibial tips. Tarsi with well developed white pulvilli.

Gonocoxite asymmetrical, left gonocoxite scoop-shaped with its basal part about twice as wide as that of right one. Right gonocoxite longish triangular with a short thumb-like process inwardly bent on median dorsal margin. Stylus cylindrical, five times longer than wide with 4 long setae (2 on apex and 2 on inferiorly) (Fig. 7).

Left phallomere bulged, somewhat sclerotized, and with a large eversible sac which is elongated, nearly membranous and wrinkled (Fig. 5). Right phallomere nearly transparent, with a large distal principal copulatory sclerite which is covered with a sclerotized plate and tip of which is bifurcated and bent (Fig. 8).

Measurements (mm): Body length (from clypeal suture to the insertion of cerci) 38.50; Head length 5.10, width 5.86; Antennal length 20.00; Clypeal length 1.63, width 2.14; Labral length 1.12, width 1.53; Pronotal length 5.87, width 5.20; Mesonotal length 4.34, width anterior 3.32, posterior 5.10; Metanotal length 3.83, width anterior 3.67, posterior 4.95; Abdominal length 18.00, width 4.69; Cercus length 19.20; Fore leg length 17.70 (5.60, 4.08, 5.46); Mid leg length 19.80 (5.76, 5.35, 6.43); Hind leg length 24.90 (7.65, 7.24, 7.24).

Remarks: This new species is similar to *G. biryongensis* Namkung, 1974 (see Namkung, 1974a) in general appearances. However, it is distinctly different from the latter with its pig-nose like bulged supra-anal plate and its bifurcated principal copulatory sclerite, while *G. biryongensis* has a tip of fountain-pen like supra-anal plate and a simple undivided principal copulatory sclerite.

Female: Unknown

Type specimen: Holotype male, collected by Young-Kyu Kim on May 4, 1986.

Type locality: Badgudök-gul, a lime stone cave in Badgudök village of Munung-ri, Nam-myön, Chöngsön-gun, Kangwön-do, Korea. The cave is situated at the mountain side (altitude 900m), near Badgudök village which is located at upstream of the Southern Han-River, about 200km east from Seoul, and 20km south-east from Biryongdong-gul cave which is the type locality of *G. biryongensis*. The type specimen was found tumbling on the surface of a small puddle about 40 meters below from the entrance of the cave.

Etymology: The specific name *magnus* (L: large) is based upon "large sized body" of the new species.

ABSTRACT

A new grylloblattid species, *Galloisiana magnus*, n. sp., was described based upon a male holotype collected in Badgudök-gul, a lime stone cave, which is located in Kangwon-do province. The new species is allied to *G. bryongensis* Namkung, 1974, however the former is distinctly different from the latter in having the pig-nose like bulged supra-anal plate and the bifurcated principal copulatory sclerite.

REFERENCES

- Namkung, J., 1974a. A new species of cave dwelling Grylloblattoidea (Grylloblattidae) from Korea. Korean J. Ent., 4, 1: 1-7.
- Namkung, J., 1974b. A new species of *Galloisiana* (Grylloblattidae) from Kosudonggul cave in Korea. Ibid., 4, 2: 91-95.

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EXPLANATION OF FIGURES

1. *Galloisiana magnus*, n. sp., male (holotype).
2. Lateral view of head.
3. Left lacinia, ventral view.
4. Cervical sclerites and basisternum.
5. End of abdomen, ventral view.
6. Supra-anal plate with cerci.
7. Right gonocoxite and stylus.
8. Principal copulatory sclerite.



